## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 2 June 2005 (02.06.2005)

PCT

## (10) International Publication Number WO 2005/048985 A3

- (51) International Patent Classification: A61K9/12 (2006.01) A61P 11/00 (2006.01)
- (21) International Application Number:

PCT/US2004/038650

(22) International Filing Date:

11 November 2004 (11.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/520,549

14 November 2003 (14.1 1.2003) US

- (71) Applicants (for all designated States except US):

  BAXTER INTERNATIONAL INC. [US/US]; One
  Baxter Parkway, Deerfield, Illinois 60015 (US). BAXTER HEALTHCARE S.A. [CWCH]; Hertistrasse 2,
  Wallisellen, Kanton, CH-8304 Zurich (CH). ARRIVA
  PHARMACEUTICALS INC. [US/US]; 2020 Challenger
  Drive, Alameda, California 94501 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): DURRANI, Manzer J. [US/US]; 8290 Cleary Boulevard, Villa #2906, Plantation, FL 33324 (US). KUMAR, Harish [US/US]; 2056 McGarvey Street, Fullerton, CA 92833 (US). KREIGER, Timothy [US/US]; 75 Bedford Avenue, Lowell, MA 01854 (US). KABINGUE, Ken [US/US]; 5146 Windermere Avenue, Los Angeles, CA 90041 (US). MOSHER, Virginia [US/US]; 27011 Harrill Lane, Lebanon, MO 65536 (US). BARR, Philip J. [US/US]; 5602 Denton Place, Oakland, CA 94619 (US). BATHURST, Ian C. [US/US]; 1626 Hibbard Street, Alameda, CA 94501 (US).

- (74) Agents: CHOI, Jane J. et al; One Baxter Parkway -DF3-2E, Deerfield, IL 60015 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 23 March 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

- (54) Title: ALPHA 1-ANTITRYPSIN COMPOSITIONS AND TREATMENT METHODS USING SUCH COMPOSITIONS
- (57) Abstract: Alpha 1-antitrypsin compositions and treatment methods using such compositions for treating a variety of pulmonary diseases are provided. The compositions generally contain AAT, a stabilizing carbohydrate such as trehalose, a surfactant such as Polysorbate 80 and an antioxidant to stabilize AAT for use as a therapeutic. The formulations can be prepared as both liquids and solids and administered by nebulization of the liquid formulation or by conversion of dry powder formulation into an aerosol.

